



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,974	04/20/2001	Edward S. Beeman	10003834-1	1255

7590 09/27/2004

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

LEE, CHEUKFAN

ART UNIT	PAPER NUMBER
----------	--------------

2622

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,974

Applicant(s)

BEEMAN, EDWARD S.

Examiner

Cheukfan Lee

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-10, 13-16 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-24 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-10, 13-16, and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 2622

1. Claims 1-4, 7-10, 13-16, and 19-24 are pending. Claims 21-24 are newly added.

Claims 1, 7, 13, 20, and 21 are independent.

2. The indicated allowability of previous claims 6, 12 and 18, now canceled, which limitations have been incorporated in claims 1, 7, and 13, respectively, is withdrawn.

Rejections based on the newly cited reference(s) follow.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 7-10, 13-16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Nakamura et al. (U.S. Patent No. 5,969,343) in view of known art.

Regarding claim 1, Applicant's admitted prior art discussed on page 7 of the specification in reference to prior art Figs. 1 and 2 is a system for capturing an image by an optical detector (101 in Fig. 1). The system comprises an illumination system (Fig. 2) to illuminate a scan region, the illumination system including a bulb (200 in Fig. 2), an optical reduction component (102 in Fig. 1) to reduce image light for receipt by the optical detector (101 in Fig. 1).

Applicant's prior art bulb differs from the claimed invention in that the bulb does not emit light of greater intensity near its extremities than its center as claimed.

Nakamura et al. discloses a bulb (Figs. 10A and 11F) for an image capturing system. The bulb comprises a light diffusion/reflection section (2) and a specific shape that allows the light emitted to be of greater intensity at its extremities than its center (col. 18, line 65 – col. 20, line 13, note col. 18, line 65 and col. 20, line 10). The bulb of Nakamura et al. produces uniform light at the output of the light bulb (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the bulb of Applicant's prior art with the bulb of Nakamura et al. to produce uniform light at the output of the bulb as taught by Nakamura et al. in order to reproduce a high quality image.

With regard to the limitation "incandescent bulb", the examiner took Official Notice of the fact that known incandescent bulbs have a filament running through the interior of the bulb as the source of illumination. Like an incandescent bulb, the light guide of Nakamura et al. (Fig. 10A and 11F) guides light from the source of light disposed at an end face of the light guide. A review of Applicant's specification reveals that having a incandescent bulb is not critical since there are other types of light bulbs such as fluorescent bulb, as long as the bulb produces light having higher intensity at its extremities than at the center. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the light source of Applicant's prior art in view of Nakamura et al. to provide an incandescent bulb having

Art Unit: 2622

the shape of the bulb (shown in Fig. 10A of Nakamura et al.) and a filament as is known in the art to provide a bulb for uniform intensity output.

Regarding claim 2, the bulb of Nakamura et al. has a diameter smaller at the center than at its extremities (Figs. 10A and 11F).

Regarding claim 3, Nakamura et al. discloses gradually increasing the diameter of the bulb from its center to the ends or extremities thereof but does not explicitly disclose that the diameter increases more rapidly near the ends than at the center. However, Nakamura et al. also discloses that the light diffusion/reflection section (2 in Fig. 11F) formed so that a ratio of a diameter of cross-section of the bulb to a width of the light diffusion section (2) is kept constant along the longitudinal direction of the bulb (col. 20, lines 9-13). One of ordinary skill in the art would have realized that this means that this feature produces higher intensity light at the ends of the bulb as compared to the case the width of section (2) remains constant along the longitudinal direction of the bulb, and thus that increasing the diameter of the bulb more rapidly near the bulb's ends than near the center while either keeping the width of the section (2) constant or increasing the width of section (2) as approaching the ends from the center thereof further increases the light intensity at the ends. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the diameter of the bulb more rapidly near the ends thereof to further increase the light intensity at the ends in order to produce even more uniform light output of the bulb.

Regarding claim 4, see image reading apparatus and facsimile machine of Nakamura et al. (col. 1, lines 5-13).

Claims 13-16 are rejected for the reasons given for claims 1-4, respectively, for claims 13-16 reciting limitations similar to those of claims 1-4, in means-plus-function format.

Claims 7-10 are rejected as being method claims corresponding to rejected apparatus claims 1-4, respectively.

Regarding claim 19, Applicant's detector (101) discussed on page 7, lines 1-5, and shown in prior art Fig. 1 is inherently a charge-coupled device (CCD), according to the prior art discussion in the BACKGROUND section of the specification, page 2, lines 17-22.

5. Claims 20-24 are allowed.

6. The following is an examiner's statement of reasons for allowance:

Claims 20-24 are allowable over the prior art of record because none of the prior art teaches a light bulb that possesses a greater density of phosphorescent material at distal portions of the bulb than the central portion thereof, the central portion emitting light of lesser intensity than the distal portions as claimed in claims 20 and 21. Claims 22-24 depend upon claim 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2622

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (703) 305-4867. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee
September 18, 2004


Cheukfan Lee